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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,401	05/09/2001	Louis B. Rosenberg	IMM005B	5620

7590 12/31/2001
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IMMERSION CORPORATION
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EXAMINER

NGUYEN, CHANH DUY

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 12/31/2001

6

Please find below and/or attached an Office communication concerning this application or proceeding.

PAH

Office Action Summary

Application No.

09/852,401

Applicant(s)

ROSENBERG, LOUIS B.

Examiner

Chanh Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2001 and 09 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 44-63 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 63 is/are allowed.
- 6) ☒ Claim(s) 44-62 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 and 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The references listed on the Information Disclosure Statement filed on May 9, 2001 and October 9, 2001 have been considered by examiner; see attached PTO-1449.

Nonstatutory Obvious Type Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 44-63 are rejected under the judicially created doctrine of double patenting over claims 1-52 of U. S. Patent No. 5,731,804 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows: the claims of the patent define a gimbal mechanism including five member linkage with axes rotation, a linear axis member, a transducer or sensor (see claim 1) as well as a laparoscopic surgical instrument (see claim 17), and

number of claims in the U.S. Patent No. 5,731,804 disclose the claimed invention of the above specified claims. Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 44-48 and 51-54 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funda et al (U.S. Patent No. 5,417,210; hereinafter simply referred to as Funda) or Gillio (U.S. Patent No. 5,704,791) in view of Colston (U.S. Patent No. 4,216,467).

As to claim 44, Funda discloses an apparatus (joy stick 268) for interface a user with a computer providing a laparoscopic surgical simulation (surgical instrument 260); see column 6, lines 32-59. Gillio's device is similar to Funda which teaches a mouse of joystick (902) mounted on laparoscopic surgical simulation. Funda or Gillio does not detail the apparatus or the joystick (268 of Funda or 902 of Gillio) having a handle, an elongated member, gimbal mechanism, a sensing system. However, all the elements mentioned above are well-known in the art of to form an joystick. For example,

Colston teaches a joystick having an user object (10) which includes a handle (top portion of the handle 10) and an elongated member (an elongated portion or a body of the handle 10). Colston teaches a gimbal mechanism (all elements between rigid members 14-15; example are elements 17-18) receiving the user object (10) and allowing the user object (10) to manipulated in first , second and third rotary degrees of freedom (three rotaty direction about 11-13 axes, e.g., pitch roll and yaw) and in a first translational degree of freedom (linear directions relative to any one of the mutually perpendicular axes 11-13, e.g., vertical ,lateral and longitudinal); see column 1, lines 58-63 Colston teaches the gimbal mechanism (17-18) having at least five member linkage (e.g., five linkage rods 18 shown in figure 3) to provide the first and a second rotary degrees of freedom (e.g, pitch and roll) ; see column 2, lines 27-38.

Colston teaches a sensing system (FS1-FS6) coupled to the gimbal mechanism (17-18) to detect manipulation of the user object (10) in the first, second and third rotational degrees of freedom (pitch, roll and yaw) and in the first translational degree of freedom (e.g, vertical direction); see column 2, line 28 through column 3, line 1. Combining the teaching of the joystick (268) providing input to the computer (243) to control the laparoscopic surgical simulation (266) of Funda (see column 6, lines 32-43) with the joystick having sensing system of Colston would meet the claimed limitation "sensing system provides input to the computer to control laparoscopic surgical simulation" as recited in the claim. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the joystick of Colston to the joystick of Funda or Gillio so as to simplify on construction of

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the essential components in the six degrees of motion freedom joystick; see column 1, lines 31-32 of Colston.

As to claim 51, this claim differs from claim 44 only in that the limitation actuator is additionally recited. Colston clearly teaches actuator (AM1-AM6) coupled to the gimbal mechanism (17-18); see column 3, lines 23-41.

As to claim 45, the claimed a handle sensor is so broad that it reads on the force sensors (FS1-FS6) as taught by Colston.

As to claims 46-47, both Gillio and Colston teaches the handle including relatively pivotable portions. For example, handle (10) of Colston can be tilted, rotated, and handle (10) coupled to the sensor (FS1-FS6).

As to claim 48, Gillio clearly teaches a well-known finger wheel (404) mounted on handle (402); see column 9, lines 57-58.

As to claim 52, Colston clearly teaches the actuator (AM1-AM6) is a motor

As to claim 54, Colston teaches actuator (AM1-AM6) which perform all the functions of pitch, roll, yaw and vertical. This reads on the claimed limitations.

3. Claims 57-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funda or Gillio in view of Colston , and further in view of Noll (U.S. Patent No. 3,919,691).

As to claim 57, note the discussion of Funda, Gillio, Colston above, this claim differs from claim 51 above only in the limitation cable and pulley is additionally recited. Noll teaches an actuator (18-20) coupled to the gimbal mechanism (10) through the

cable (17) and pulley ; see column 3, lines 49-54. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the cable and pulley as taught by Noll to the gimbal mechanism of Funda or Gillio as modified by Colston because the pulley and cable are relatively less expensive than metal rod, bond as taught by Colston.

As to claims 58-62, all the limitation recited in claims 58-62 are met by Funda, Gillio, Colston as well as Noll. For example, Noll clearly teaches cable pulley to provide a force to the user in the first translational degree of freedom as recited in claim 58. The claimed five member linkage recited in claim 59-60 is broad enough to read on the connection between elements in the gimbal mechanism (10) of Noll.

4. Claims 49-50 and 55-56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Funda or Gilli as applied to claim 44 above, and further in view of Tuason (U.S. Patent No. 5,403,191).

As to claims 49-50 and 55-56, note the discussion of Funda, Gillio and Colston above, Funda, Gillio and Colston do not mention a barrier and a trocar. Tuason teaches trocar (24) and barrier (17). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized the trocar and barrier as taught by Tuason to the laparoscopic surgical simulation of Funda or Gilli as modified by Colston so as to allow a surgeon to perform the simulation resemble real life operation; see column 6, lines 3-11 of Tuason.

Allowable Subject Matter

5. Claim 63 is allowed. None of the reference of records, either singularly or in combination disclose the details of connection between cable, a guide rail, a frame assembly, a rotation sensor, a position sensor and a servo motor as recited in the claim.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven Saras, can be reached on (703) 305-9720. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 9703) 306-0377.

Chanh Nguyen
Primary Examiner
Art Unit 2675

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703)872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (receptionist).

cm

C. Nguyen

December 31, 2001

Chanh Nguyen
CHANH NGUYEN
PRIMARY EXAMINER